

Study of the phase diagram and the ... S/576/61/000/000/020/020
E021/E120

α NiS with a millerite-type structure, behave below 300 °C as semi-metals, but β' CoS with 55.22 at.% S and β' NiSe with 52.3 at.% Se have a tendency to semiconducting type of conductivity. The phases α Ni₃S₂, α Ni₃Se₂, Co₉S₈, NiSe₂ and mixtures of α Ni₃S₂ with Ni, α Ni₃Se₂ with Ni and Ni₆Se₅, Co₉S₈ with Co, have metallic conductivity. The c/a ratio is close to the ideal nickel-arsenide structure in the case of β NiS (c/a = 1.555) but the tendency to semiconducting properties is greater for β' CoS (c/a = 1.534) and β' NiSe (c/a = 1.463). This is a deviation from the prediction by W.B. Pearson (Ref.20: Canadian J. of Physics, 1957, v.35, 8, 886) that phases with nickel-arsenide structure would have semiconducting type of electrical conductivity. Detailed information is given on the limits of homogeneity and phase structure of Ni-S, Ni-Se and Co-S systems and also the inter-atomic distances in sulphides and selenides of nickel and cobalt selenide.

There are 2 figures, 2 tables and 32 references: 7 Soviet-bloc and 25 non-Soviet-bloc.

Card 3/4

KUZNETSOV, V.G.; YELISEYEV, A.A.

X-ray examination for determining the boundaries of homogeneity and the nature of the β -NiS phase. Zhur.strukt.khim. 2 no.5: 578-584 S-O '61. (MIRA 14:11)

1. Institut obshchey i neorganicheskoy khimii imeni N.S. Kurnakova AN SSSR.

(Nickel alloys)

(Crystal lattices)

MEDVEDEVA, Z.S.; KLOCHKO, M.A.; KUZNETSOV, V.G.; ANDREYEVA, S.N.

Phase diagram of the system palladium-tellurium. Zhur.
neorg. khim. 6 no.7:1737-1739 J1 '61. (MIRA 14:7)
(Palladium) (Tellurium)

DRUZHININ, I.G.; IMANAKUNOV, B.; KUZNETSOV, V.G.

Study of some physicochemical properties of nickel astrakhanite.
Zhur.neorg.khim. 6 no.11:2576-2581 '61. (MIRA 14:10)
(Nickel ores) (Bloedite)

DRUZHININ, I.G.; IMANAKUNOV, B.; KUZNETSOV, V.G.

Solubility in the quaternary system consisting of nickel, sodium,
aluminum sulfates, and water. Zhur.neorg.khim. 6 no.11:2582-
'61. (MIRA 14:10)
(Systems (Chemistry)) (Solubility) (Salts)

RODE, Ye.Ya.; GOLOVLEVA, Z.S.; KUZNETSOV, V.G.; KOZ'MIN, P.A.

Physicochemical study of hydrated peroxide compounds of uranium.
Zhur.neorg.khim. 6 no.12:2635-2648 D '61. (MIRA 14:12)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova,
AN SSSR.

(Uranium oxide)

KUZNETSOV, V.G.; IMANAKUNOV, B.

X-ray diffraction study of solid phases in ternary aqueous systems consisting of nickel, sodium, and aluminum sulfates at 25-65 C. Zhur.strukt.khim. 3 no.1:51-63 Ja-F '62. (MIRA 15:3)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova
AN SSSR i Institut khimii AN Kirgizskoy SSR.
(Systems (Chemistry)) (X rays--Diffraction)

TSAREGORODTSEV, P.P.; GARASIMOV, Ya.P., master; BORMASHENKO, R.I.;
LOSKUTNIKOV, V.D., stalevar; KUZNETSOV, V.G., stalevar;
SAFRONOV, V.F., stalevar; SUVCROV, K.R., stalevar

"Steelmaker's manual" by M.I. Panfilov. Reviewed by P.P.
TSaregorodtsev and others. Metallurg 7 no.5:39 My '62.
(MIRA 15:5)

1. Petrovsk-Zabaykal'skiy metallurgicheskiy zavod.
2. Nachal'nik martenovskogo tsekha Petrovsk-Zabaykal'skogo
metallurgicheskogo zavoda (for TSaregorodtsev).
(Open-hearth process—Handbooks, manuals, etc.)
(Panfilov, M.I.)

S/078/62/007/005/003/014
B101/B110

AUTHORS:

Kuznetsov, V. G., Tokareva, S. A., Dobrolyubova, M. S.

TITLE:

X-ray diffraction analysis of sodium ozonide NaO_3

PERIODICAL:

Zhurnal neorganicheskoy khimii, v. 7, no. 5, 1962, 967 - 970

TEXT: X-ray powder patterns were taken for determining the crystallization form of NaO_3 . NaO_3 was synthesized by reaction of O_3 with anhydrous NaOH at -80°C and subsequent extraction with liquid NH_3 which was removed in vacuo at -50°C . The resulting product (red crystals) contained 90-92% NaO_3 . Because of the instability of NaO_3 , the x-ray patterns were taken at nitrogen temperature by an YPC-55 (URS-55) camera. The x-ray patterns of NaNO_3 , $(\text{NH}_4)\text{NO}_3$, NaOH , $\text{NaOH}\cdot\text{H}_2\text{O}$, and NaO_2 were taken for comparison. NaO_3 was found to contain small amounts of NaOH and NaO_2 . The indication of the x-ray patterns showed good agreement with the interplanar spacings

Card 1/2

KUZNETSOV, V. G.

X-ray investigation of the phase diagram of the system $\text{Bi}_2\text{S}_3\text{-Sb}_2\text{S}_3$.
V. G. Kuznetsov, A. S. Kanishcheva.

Concerning the crystal structure and some properties of solid solutions
in the ternary reciprocal system $\text{Bi}_2\text{Se}_3 + \text{Sb}_2\text{Te}_3 \rightleftharpoons \text{Bi}_2\text{Te}_3 + \text{Sb}_2\text{Se}_3$.
K. K. Palkina, V. G. Kuznetsov.

Report presented at the 3rd National Conference on Semiconductor Compounds,
Kishinev, 16-21 Sept 1963

KUZNETSOV, V. G.; KOZ'MIN, P. A.

"Kristallicheskaya struktura $(C_5H_5NH)HRe^{II}Cl_4$ i $(C_5H_5NH)HRe^{II}Br_4$."

report submitted for 6th Gen Assembly, Intl Union of Crystallography, Rome,
9 Sep 63.

Inst obshchey i neorganicheskoy khimii im N. S. Kurnakova, AN SSSR, Moskva.

KUZNETSOV, V.G.; KOZ'MIN, P.A.

Structure of $(PyH)HReCl_4$. Zhur.strukt.khim. 4 no.1:55-62 Ja-P
'63. (MIRA 16:2)

1. Institut obshchey i neorganicheskoy khimii imeni N.S. Kurnakova
AN SSSR.

(Rhenium compounds) (X-ray crystallography)

KUZNETSOV, V. G.

AID Nr. 994-i 20 June

PHASE DIAGRAMS AND STRUCTURES OF ALLOYS IN THE SYSTEMS
 Bi_2Se_3 — Sb_2Te_3 AND Bi_2Te_3 — Sb_2Se_3 (USSR)

Kuznetsov, V. G., and K. K. Palkina. Zhurnal neorganicheskoy khimii, v. 8,
no. 5, May 1963, 1204-1218.
S/078/63/008/005/012/021

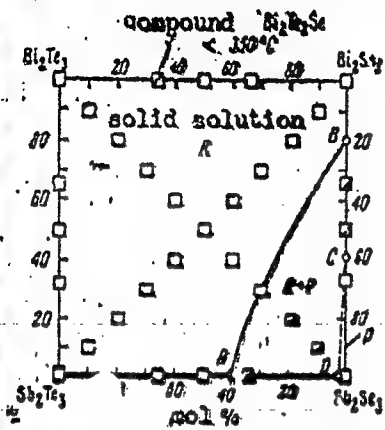
The systems Bi_2Se_3 — Sb_2Te_3 and Bi_2Te_3 — Sb_2Se_3 have been studied by
thermal and x-ray analysis at the Institute of General and Inorganic Chemistry
imeni N. S. Kurnakov, Academy of Sciences USSR.

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AID Nr. 994-1 20 June

PHASE DIAGRAMS AND STRUCTURES OF ALLOYS [Cont'd]

S/078/63/008/005/012/021



The results of the study have made it possible to plot phase diagrams and to establish the structures of alloys in the above systems. The system $\text{Bi}_2\text{Se}_3 - \text{Sb}_2\text{Te}_3$ forms completely miscible substitutional solid solutions with a rhombohedral multiple-layer structure of the tetradymite type. The liquidus and solidus are smooth, with a minimum at 595°C , 85 mol% Sb_2Te_3 . The system $\text{Bi}_2\text{Te}_3 - \text{Sb}_2\text{Se}_3$ forms partially miscible solid solutions. Solutions based on Bi_2Te_3 also have a multiple-layer structure of the tetradymite type and a one-phase region from 0 to 70 mol% Sb_2Se_3 . Solutions based on Sb_2Se_3 have a rhombic nucleus, a chain structure of the Sb_2S_3 type, and a single-

phase region from about 97 to 100 mol% Sb_2Se_3 . The region from about 70 to 93 mol% Sb_2Se_3 contains a mixture of the rhombohedral and rhombic solid solutions and a eutectic at 600°C , 86 mol% Sb_2Se_3 . The phase diagram of the system $\text{Bi}_2\text{Se}_3 + \text{Sb}_2\text{Te}_3 \rightleftharpoons \text{Bi}_2\text{Te}_3 + \text{Sb}_2\text{Se}_3$ at 500°C is given in the illustration.

[BAO]

Card 2/2

KULIKOVSKIY, B.N.; MIKHAYLOV, Yu.N.; KUZNETSOV, V.G.

X-ray diffraction study of the oxidation products of tellurium.
Zhur. neorg. khim. 8 no.6:1338-1341 Je '63. (MIRA 16:6)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova
AN SSSR.

(Tellurium) (Oxidation)
(X rays—Diffraction)

YANAT'YEVA, O.K.; ORLOVA, V.T.; KUZNETSOV, V.G.

Nature of the glaserite phase in the system $K_2SO_4 - Na_2SO_4 - H_2O$.
Zhur. neorg. khim. 8 no.7:1756-1765 JI '63.

(MIRA 16:7)

(Alkali metal sulfates) (Aphthitalite)

I 17743-63

ENP(a)/ENT(a)/BDS AFFTC/ASD EDW/ID

ACCESSION NR: AP3006805

S/0078/63/008/009/2132/2135

AUTHOR: Ioffe, A. V.; Kuznetsov, V. G.; Palkina, K. K.

TITLE: Thermal conductivity and thermoelectric figure of merit (Z) of solid solutions in the bismuth selenide-antimony telluride and bismuth telluride-antimony selenide systems

SOURCE: Zhurnal neorganicheskoy khimii, v. 8, no. 9, 1963, 2132-2135

TOPIC TAGS: bismuth selenide, antimony telluride, bismuth telluride, antimony selenide, solid solution, alloy, semiconductor, semiconductor system, thermoelectric material, total thermal conductivity, electron, lattice, thermal conductivity, electrical conductivity, thermoelectric power, thermoelectric figure of merit, bismuth selenide antimony telluride system, bismuth telluride antimony selenide system

ABSTRACT: Total thermal conductivity (κ), electrical conductivity (σ), and thermoelectric power (α) have been measured at room temperature for the entire composition range of solid solutions in

Card 1/A 3

L 17743-63

ACCESSION NR: AP3006805

the Bi_2Se_3 — Sb_2Te_3 and Bi_2Te_3 — Sb_2Se_3 systems. The calculated values of the thermoelectric figure of merit (Z) were correlated with composition. Data for the systems studied are not available in the literature. Alloys were prepared by melting mixtures of the high-purity elements in the required proportions in evacuated sealed quartz ampuls. The alloys were vacuum annealed, hot pressed into specimens, and quenched from 500C. All measurements were conducted with the same specimen of each alloy. Thermal conductivity by electrons (κ_{el}), was calculated from the measured σ , and thermal conductivity by lattice vibrations (κ_l) as the difference. Isotherms of σ , α , κ , and Z for solid solutions in both systems studied are shown in Figs. 1 and 2 of the Enclosure. The following conclusions are reached. 1) Diffuse minima of κ_l and σ , characteristic of metals, exist in both systems at a 1/1 molar ratio of the components. 2) The peak Z values (at 33.33 and 66.66 mol% Sb_2Te_3) in the Bi_2Se_3 — Sb_2Te_3 system are 1.6 and 1.3 times the Z value for pure Bi_2Se_3 ; the peak Z value (at 33.3 mol% Sb_2Se_3) in the Bi_2Te_3 — Sb_2Se_3 system is 7 times the Z value for

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ACCESSION NR: AP3006805

pure Bi_2Te_3 . 3) The sign of α of the Bi_2Se_3 — Sb_2Te_3 system changes from negative to positive at 42 mol% Sb_2Te_3 and at 50 mol% reaches its maximum value, which is 2.5 times that of pure Sb_2Te_3 ; α in the p-type Bi_2Te_3 — Sb_2Se_3 system reaches its peak value at about 40 mol% Sb_2Se_3 . Certain discrepancies in absolute α and σ values between this and a previous study (V. G. Kuznetsov, K. K. Palkina, A. V. Dmitriyev, Zh. neorgan. khimii, 8 [Abstracter's note: 9], 2136 (1963)), are attributed to the fact that the impurity content of Te was higher in the earlier study. The patterns of α and σ isotherms are similar in both studies. It was shown that the main component of κ_t in both systems is κ_1 . Orig. art. has: 4 figures and 1 table.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry, Academy of Sciences SSSR)

SUBMITTED: 16Aug62

DATE ACQ: 30Sep63

ENCL: 01

SUB CODE: PH, MA

NO REF SOV: 004

OTHER: 001

Cord 3/13

L 17742-63 EWP(q)/EWT(m)/BDS AFPTC/ASD RDW/JD
 S/0078/63/008/009/2136/2139 63
 60

ACCESSION NR: AP3006806

AUTHOR: Kuznetsov, V. G.; Palkina, K. K.; Dmitriyev, A. V.

TITLE: Electrical conductivity and thermoelectric power of the
 bismuth selenide-antimony telluride and bismuth telluride-antimony
 selenide solid solutions 27 27 27

SOURCE: Zhurnal neorganicheskoy khimii, v. 8, no. 9, 1963, 2136-2139

TOPIC TAGS: antimony bismuth selenide telluride ternary system,
 bismuth selenide, antimony telluride, bismuth telluride, antimony
 selenide, solid solution, electrical conductivity, thermoelectric
 power, metallic type conductivity, semiconductor type conductivity,
 bismuth selenide antimony telluride system, bismuth telluride
 antimony selenide system

ABSTRACT: Variations in electrical conductivity (σ) and thermo-
 electric power (α) with solid-solution composition have been studied
 in the Bi_2Se_3 - Sb_2Te_3 and Bi_2Te_3 - Sb_2Se_3 sections of the composition
 square representing the $\text{Sb}_x\text{Bi}_{2-x}\text{Te}_{3-y}\text{Se}_y$ ternary system. Data for

Card 1/3

L 17742-63

ACCESSION NR: AP3006806

the sections are not available in the literature, but phase diagrams have been established (V. G. Kuznetsov, K. K. Palkina, Zh. neorgan. khimii, 8, 1204 (1963)). Measurements of σ and α were carried out at room temperature on hot-pressed specimens prepared by melting mixtures of the high-purity compounds in evacuated sealed quartz ampuls. The hot-pressed specimens were vacuum annealed and water quenched. It was shown that 1) minimum σ corresponds to 70 mol% Sb_2Te_3 in the Bi_2Se_3 — Sb_2Te_3 system, while the n-type σ in the Bi_2Te_3 — Sb_2Se_3 system decreases continuously with an increase in Sb_2Se_3 concentration in the solid solution; and 2) the sign of α of Bi_2Se_3 in the Bi_2Se_3 — Sb_2Te_3 system changes from minus to plus at 60 mol% Sb_2Te_3 and reaches a maximum at 70 mol% Sb_2Te_3 , while α in the Bi_2Te_3 — Sb_2Se_3 system shows a maximum at 50 mol% Sb_2Se_3 . In the 18—227°C range, a metallic-type temperature dependence of σ was found for pure Bi_2Te_3 , Bi_2Se_3 , and Sb_2Te_3 , and a semiconductor-type dependence, for Sb_2Se_3 . Discrepancies between experimental and literature data on σ and α for n-type Bi_2Te_3 and n-type Bi_2Se_3 are caused by differences in the purity of the starting materials and in the preparation of

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L 17742-63

ACCESSION NR: AP3006806

the specimens. Orig. art. has: 1 table, and 3 figures.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova AN SSSR (Institute of General and Inorganic Chemistry, AN SSSR)

SUBMITTED: 30Oct62

DATE ACQ: 30Sep63

ENCL: 00

SUB CODE: MA, PH

NO REF SOV: 012

OTHER: 006

Card 3/3

RODE, Ye.Ya.; GOLCVLEVA, Z.S.; KUZNETSOV, V.G.; KOZ'MIN, P.A.

Hydrated compounds in the system uranium trioxide - water. Zhur.
neorg. khim. 8 no.12:2751-2772 D '63. (MIRA 17:9)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova AN
SSSR.

ACCESSION NR: AP4019271

8/0192/64/005/001/0142/0144

AUTHORS: Kuznetsov, V.G.; Bakulina, V.M.; Tokareva, S.A.;
Zimina, A.M.

TITLE: X ray study of sodium ozonide, NaO sub 3

SOURCE: Zhurnal strukturnoy khimii, v. 5, no. 1, 1964, 142-144

TOPIC TAGS: x ray study, sodium ozonide, symmetry, cell dimension,
interplaner distance, volume centered tetragonal lattice, sodium,
sodium compound

ABSTRACT: Sodium ozonide was obtained by reaction of ozone with
dehydrated sodium hydroxide at -80C for 3 hrs. with subsequent ex-
traction from liquid ammonia. The solvent was removed in a vacuum
at -50C. The crystalline product contained 85% sodium ozonide.
Specimens of sodium ozonide synthesized at a temperature interval
of 0 to 5C and separated by subsequent extraction with liquid
ammonia were studied simultaneously. From X-ray photographs it was

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ACCESSION NR: AP4019271

possible to measure more lines and obtain more accurate values, and also to determine the symmetry and cell dimensions. Indexing of x-ray photographs by means of Helly's curves provided better agreement of measured and calculated interplanar distances for a volume centered tetragonal lattice with the ratio $c/a = 0.66$ and with periods $a = 11.65$ and $c = 7.66$ Å. Deviation is observed for the first diffuse line with $d = 3.927$ Å, which is explained by a large error of measurement for this line. The density of sodium ozonide found by the hydrostatic suspension method, is 1.6 g./cm^3 . The number of molecules in the unit cell is 14. As a result of analysis of extinction and of value $N = 14$, spatial group I of 4ttt was tentatively selected. Orig. art. has: 1 table, 1 figure.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN SSSR (Institute of General and Inorganic Chemistry AN SSSR)

SUBMITTED: 19Jun68

DATE ACQ: 27Mar64

ENCL: 00

SUB CODE: CH

NO REF SOV: 005

OTHER: 003

Card 2/2

YELISEYEV, A.A.; KUZNETSOV, V.G.; YAREMBASH, Ye.I.

X-ray diffraction study of lanthanum telluride. Zhur. strukt.
khim. 5 no.4:641-642 Ag '64. (MIRA 18:3)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova
AN SSSR.

YLISEYEV, A.A.; YAREMBASH, Ye.I.; KUZNETSOV, V.G.; VIGILEVA, Ye.S.;
RESHCHIKOVA, A.A.; ANTONOVA, L.I.

Lanthanum tellurides. Zhur.neorg.khim. 9 no.4:876-882 Ap '64.
(MIRA 17:4)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova
AN SSSR.

crystals of rare earth chalcogenides of the MeX_2 type. The $LaTe_2$
single crystals synthesized by chemical transport were

L 8947-65

STON NRI AP4044280

ACCESSION NR: AP4040728

S/0192/64/005/003/0397/0403

AUTHOR: Kuznetsov, V. G.; Petushkova, S.M.; Tananayev, I.V.

TITLE: Radiographic investigation of gadolinium phosphates

SOURCE: Zhurnal strukturnoy khimii, v. 5, no. 3, 1964, 397-403

TOPIC TAGS: gadolinium phosphate radiography, gadolinium phosphate, powder radiography

ABSTRACT: Using methods of powder radiography, solid phases formed at 250 in systems $GdCl_3-H_3PO_4-H_2O$ and $GdCl_3-Na_3PO_4-H_2O$ were investigated. The article contains tabulated data of radiographic analysis covering the obtained products: $9GdPO_4 \cdot Gd(OH)_3 \cdot 27H_2O$; $GdPO_4 \cdot H_2O$; $4GdPO_4 \cdot Na_3PO_4 \cdot 12H_2O$, as well as the products of their heat treatment: $GdPO_4$; $GdPO_4 \cdot 0.33H_2O$; $18GdPO_4 \cdot Gd_2O_3$ and $4GdPO_4 \cdot Na_3PO_4$. It was found that $GdPO_4$ has two crystalline modifications: hexagonal ($a=6.89\text{\AA}$; $c=6.33\text{\AA}$; spatial group $D_6^4=P6_222$ and $D_6^5=P6_422$) which is isostructural with the hexagonal modifications of lanthanum, cerium and neodymium phosphates, and probably monoclinal isostructural monazite. The results obtained may serve for the identification of the compounds. Orig. art. has: 6 tables.

Card 1/2

ACCESSION NR: AP4040728

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova, AN SSSR (Institute of General and Inorganic Chemistry, AN SSSR)

SUBMITTED: 21Jun63

SUB CODE: IC

NR REF SOV: 001

ENCL: 00

OTHER: 006

2/2

Card

"APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000928210004-5

APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000928210004-5"

MISSION NR: AP4044279

... compounds differ significantly from ... of ...

... at ... branches ... structure of General and ...

... 4064

... 88

... REF ...

... 2

lanthanum tellurides

Journal neorganicheskoy khimii, v. 9, no. 4, 1974, 576-582

ABSTRACT: A series of alloys of the La-Te system, containing 50-80 at.% Te was
investigated at temperatures below the liquidus line. The alloys were
found to be stable in air at room temperature.

"APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000928210004-5

APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000928210004-5"

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"APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000928210004-5

APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000928210004-5"

KUZNETSOV, V.G.; LI CHI-FA [Li Ch'ih-fa]

X-ray diffraction examination of the system SnS - PbS.
Zhur. neorg. khim. 9 no.5:1201-1206 My '64.

(MIRA 17:9)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.
Kurnakova AN SSSR.

KUZNETSOV, V.G.; VASIL'YEVA, V.P.; TANANAYEV, I.V.

X-ray examination of lanthanum phosphates. Zhur. neorg. khim.
9 no.9:2053-2059 S '64. (MIRA 17:11)

RUZNETSOV, V.G.; PETUSHEVA, N.P.; TOLNAYEV, I.V.

X-ray diffraction study of gadolinium phosphates. Zhur. strukt.
Ihim. 5 no.3:397-403 My-Je '64. (MIRA 18:7)

1. Institut obshchey i neorganicheskoy khimii imeni N.S. Kurnakova
AN SSSR.

THE STRUCTURE OF ALLOYS OF BISMUTH
TELLURIDE AND BISMUTH SELENIDE

STRUCTURE OF ALLOYS OF BISMUTH
TELLURIDE AND BISMUTH SELENIDE

STRUCTURE OF ALLOYS OF BISMUTH
TELLURIDE AND BISMUTH SELENIDE

AN SSSR. Izvestiya. Neorganicheskiye materialy, 1965, 68-76

telluride solubility, selenide solubility, semiconductor, phase dia-
gram structure, bismuth selenide, bismuth telluride, bismuth selenide,
selenide

A metallographic study of alloys annealed at 400°C and then
quenched into a series of temperatures

Alloys of bismuth telluride and bismuth selenide

Alloys of bismuth telluride and bismuth selenide

Alloys of bismuth telluride and bismuth selenide

Alloys of bismuth telluride and bismuth selenide

Alloys of bismuth telluride and bismuth selenide

AP5007609

bedral solid solution with the Sb_2Se_3 base at 500C was 98.5 mol. % Sb_2Se_3 , as shown
in the art. has 5 figures and 6 tables.

Institut obshchey i neorganicheskoy khimii, ul. Lenina, 135, Moscow,
USSR (General and inorganic chemistry, Institute of Science)

SUBMITTED: 15Jul63

ENCL: 00

SUB CODE: IC, MM, SS

NO REF SOV: 007

OTHER: 000

Card 2/2

KUZNETSOV, V.G.; SOKOLOVA, M.A.; PALKINA, K.K.; POPOVA, Z.V.

Cobalt-sulfur system. Izv. AN SSSR. Neorg. mat. 1 no.5:675-689 My
'65. (MIRA 18:10)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova AN
SSSR.

DISPATCH NO. AP5018583

UR/0383/65/001/005/0692/0697

548.654'241:548.19

AUTHOR: Yeliseyev, A. A.; Kuznetsov, V. G.

Crystal structure of LaTe_2

AN SSSR. Izvestiya. Neorganicheskiye materialy. 1965, 692-697

Lanthanum telluride crystal structure

The article reports on an x-ray structural analysis of lanthanum telluride and dimensions of the unit cell.

The LaTe_2 structure has a layered character in which the layers parallel to the coordinate plane alternate as follows

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NR: AP5018583

Te₁ - Te₂ - La - Te₁. "The authors are sincerely grateful to Ye. I. Yarembozh
and Ye. I. Vigel'ev for providing the LaTe₃ crystals for the experiment."

INSTITUTION: Institut obshchey i neorganicheskoy khimii im. N S Kurnakova Akademii
Nauk SSSR Institute of General and Inorganic Chemistry, Academy of Sciences, SSSR

1551854

ENCL: 06

004

OTHER: 007

Card

2/2

YELISEYEV, A.A.; YAREMBASH, Ye.I.; KUZNETSOV, V.G.; ANTONOVA, I.I.;
STOYANTSEVA, Z.P.

X-ray diffraction examination of lanthanum tellurides. Izv. AN
SSSR. Neorg.mat. 1 no.7:1027-1038 J1 '65. (MIRA 18:9)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurakova
AN SSSR.

ELLERT, G.V.; TSAPKIN, V.V.; M. KHAYLOV, Yu.N.; KUZNETSOV, V.G.

Chloridobromide complex compounds of tetracido-type uranyl.
Zhur. neorg. khim. 10 no.7:1572-1580 J1 '65. (MIRA 18:8)

PAKINA, K.K.; KUZNETSOV, V.G.

X-rays diffraction and thermographic investigation of alloys
of the system $Sb_2Te_3 - Sb_2Se_3$. Izv. AN SSSR. Neorg. mat. 1
no.12:2158-2164 D 1965. (MIRA 18:12)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova
AN ESSR. Submitted June 10, 1965.

LAPINSKAYA, T.A.; KUZNETSOV, V.G.

Correlation of the zone of the Kara-Kincl' depression with the
tectonics of the crystalline basement. Dokl. AN SSSR 164
no.5:1125-1128 0 '65.

(MIRA 18:10)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti.
Submitted April 13, 1965.

ACC NR: AP7000138

SOURCE CODE: UR/0177/66/000/011/0050/0054

AUTHOR: Derevyanko, Ye. A. (Lieutenant Colonel of Administrative Services; Candidate of Biological Sciences); Kuznetsov, V. G. (Major Medical Services)

ORG: None

TITLE: Experimental study of spatial illusion during flight

SOURCE: Voenno-meditsinskiy zhurnal, no. 11, 1966, 50-54

TOPIC TAGS: medical experiment, space biologic experiment, human ailment, human physiology, jet aircraft, research aircraft, transport aircraft

ABSTRACT: Spatial illusion is one of the factors complicating the pilot's activities when flying on instruments. The causes, conditions and mechanisms which give rise to this phenomenon are of great theoretical and practical interest since only by understanding them can preventive measures be taken. B. A. Yakubov and A. A. Vorona are cited as sources for descriptions of the nature and symptoms of spatial illusions. But it is acknowledged that experimental data on the concrete circumstances in which these illusions arise, other than the word of pilots themselves, is lacking. Present research will only make it possible to establish some of the sensations of the illusions, and indicate some paths to be followed during further experimental study of their causes. Research has been conducted using specially

Card 1/2

UDC: 616.89-008.42-02:629.13

ACC NR: AP7000138

equipped recording devices installed in TU-104 aircraft. The K-12-21 oscillograph, used in conjunction with MP-69, TsGV, and DUS-3 sensors records physical parameters for overload, bank, and angular speed of the aircraft heading into a bank and emerging from it, and glide. Eleven command pilots and co-pilots, as well as six non-flying personnel participated in the research. The manner in which the research was conducted is described. The results obtained indicated that distinction could be made between three types of illusions: prolonged bank, reverse bank, and cyclical illusions, all of which are characterized by descriptions of the sensations experienced. It is concluded that, apart from internal factors involving the central nervous system, acceleration is a major factor in causing illusions. But the analysis of the indications of the three types notes that they were registered in the absence of optical information on spatial conditions. Orig. art. has: 3 figures.

SUB CODE: 22, 01, ⁰⁶22/ SUBM DATE: none

Card 2/2

L 16468-66 EWT(m)/ETC(f)/EPF(n)-2/EWG(m) DM
ACC NR: AP6005540 (N) SOURCE CODE: UR/0089/66/020/001/0075/0076

AUTHOR: Veselovskiy, L. N.; Kuznetsov, V. G.; Sakovich, V. A.

44
B

ORG: none

TITLE: Optimum ratio of neutron- and gamma-radiation doses behind the shield of a reactor

SOURCE: *19, 55* Atomnaya energiya, v. 20, no. 1, 1966, 75-76

TOPIC TAGS: radiation shielding, gamma radiation, neutron radiation, nuclear engineering, reactor shielding

ABSTRACT: It is shown that slight deviations from equality between the surface areas of the light and heavy components in a lead-water shield may have a considerable effect on the ratio of neutron- and gamma-radiation doses for optimum thicknesses of the water and lead components. No definite ratio of neutron- and gamma-radiation doses can serve as a generalized optimizing test depending on specific structural considerations. Therefore other tests must be used for checking optimum shielding conditions. Orig. art. has: 5 formulas.

SUB CODE: 18/ SUBM DATE: 11Mar65/ ORIG REF: 002/ OTH REF: 002

Card 1/1 *mc*

UDC: 621.039.58:539.125.5 + 539.122 *2*

L 13565-66 EWT(m)/ETC(F)/EWG(m)/ENP(t)/ENP(b) IJP(c) RDW/JD

ACC NR: AP6001233 SOURCE CODE: UR/0363/65/001/012/2158/2164

AUTHOR: Palkina, K. K.; Kuznetsov, V. G.ORG: Institute of General and Inorganic Chemistry Im. N. S. Kurnakov, Academy of Sciences, SSSR (Institut obshchey i neorganicheskoy khimii Akademii nauk SSSR)TITLE: X-ray diffraction and thermographic study of alloys of the Sb_2Te_3 - Sb_2Se_3 system

SOURCE: AN SSSR Izvestiya. Neorganicheskiye materialy, v. 1, no. 12, 1965, 2158-2164

TOPIC TAGS: solid solution, antimony alloy, tellurium alloy, selenium alloy, THERMAL ANALYSIS, PHASE DIAGRAM

ABSTRACT: The homogenized alloys were studied by differential thermal analysis with a Kurnakov pyrometer and by x-ray powder techniques. Because of the supercooling tendencies of the alloys, the thermal effects were recorded on heating curves. The eutectic type of the phase diagram of the system with limited solid solutions was confirmed. The region of homogeneity of the solid solution based on Sb_2Te_3 is located between 0 and 53.5 mole % Sb_2Se_3 at 500C and between 0 and 52.5 mole % Sb_2Se_3 at 350C. The constants of the hexagonal Sb_2Te_3 lattice decrease with increasing Sb_2Se_3 content of the solid solution: a from 4.264 to 4.128 Å, c from 30.42 to 29.52 Å. In the range from 46.5 to 97 mole % Sb_2Se_3 at 500C there exists a two-phase region consisting of solid solutions based on Sb_2Se_3 and Sb_2Te_3 . Orig. art. has: 3 figures and 5 tables.

SUB CODE: 11 / SUBM DATE: 10Jun65 / ORIG REF: 005

Card 1/1 NW

UDC: 546.86'24.1+546.86'23.1

MIKHAYLOV, Y.N.; KUZNETSOV, V.G.; KOVALEVA, Ye.S.

Crystalline structure of cesium tetrabromouranilate $Cs_2[UO_2Br_4]$.
Zhur.strukt.khim. 6 no.5:787-788 S-O '65.

(MIRA 18:12)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.
Kurnakova AN SSSR. Submitted May 21, 1965.

L 7824-66 EWT(1)/ENP(e)/EPA(s)-2/ENT(m)/ENP(1)/EPA(w)-2/ENP(t)/ENP(b) LJP(3)
 ACC NR: AP 5028101 JD/GG/WH SOURCE CODE: UR/0048/85/029/011/1982/1985
 AUTHOR: ^{55 44} Borodin, V.Z.; ^{55 44} Kuznetsov, V.G.; ^{55 44} Lezgintseva, T.N. 75 12 B
 ORG: ^{55 44} Rostov-on-the-Don State University (Rostovskiy-na-Donu Gosudarstvennyy universitet)
 TITLE: Dielectric and optical investigations of ^{15,44} barium titanate single crystals in the infralow frequency range /Report, Fourth All-Union Conference on Ferroelectricity held at Rostov-on-the-Don 12-16 September 1984/ III
 SOURCE: AN SSSR. Izvestiya, Seriya fizicheskaya, v. 29 no. 11, 1985, 1982-1985
 TOPIC TAGS: ^{21, 44, 55} Ferroelectric crystal, ²⁷ barium titanate, ^{21, 44, 55} dielectric constant, electric coercive force, electric domain structure, extreme low frequency.
 ABSTRACT: The polarization, effective dielectric constant, and coercive field of thin (0.02 to 0.2 mm) BaTiO₃ single crystal plates with different domain structures were measured at frequencies between 10⁻² and 10⁴ cycle/sec. The reversible dielectric constant was measured at a carrier frequency of 150 kilocycle/sec in the presence of a very low frequency bias field. In addition to this, the behavior under the influence of low frequency fields of single a-domains in the midst of c-domains was observed with a polarizing microscope. At frequencies below about 50 cycle/sec the effective dielectric constant as a function of the amplitude of the measuring field showed a pronounced maximum at an amplitude in the vicinity
 Card 1/2

L 7824-66

ACC NR: AP 5028101

3

of 1 kV/cm; the maximum dielectric constant increased rapidly with decreasing frequency and the position of the maximum shifted slightly to lower amplitudes. The coercive field decreased gradually with decreasing frequency, reached a minimum at a frequency that depended on the amplitude of the applied field, and subsequently increased to the static value. The changes in thickness of a-domains were observed in 0.2 cycle/sec fields. At low amplitudes of the applied field the domains oscillated at the applied frequency, but at high amplitudes the domains oscillated at twice the applied frequency. An analogous transition from fundamental to second harmonic domain oscillation was observed on decreasing the frequency while maintaining the amplitude constant. When oscillating at the second harmonic, the domains reached their greatest size when the applied field passed through the value of the coercive field. The relation between domain oscillation and other dielectric properties of the crystal is discussed briefly. The authors thank M.L. Sholokhov for providing the single crystals. Orig. art. has: 1 formula and 5 figures.

SUB CODE: SS, EM

SUBM DATE: 00/

ORIG. REF. 005 OTH REF: 002

Card 2/2

KUZNETSOV, V.G.

Case of leiomyoma of the corpus ventriculi. Vest. rent. 1 rad. 37
no.2:61-62 Mr-Apr '62. (MIRA 15:4)

1. Iz rentgenovskogo kabineta Shumerlinskoy rayonnoy bol'nitsy
Chuvashskoy ASSR (glavnyy vrach A.N.Yefremov).
(STOMACH---TUMORS)

KUZNETSOV, V.G.

Treatment of paronychia. "Drev. Kazakh. 23 no.4:14-15 '63.

(MIRA 17:5)
1. Iz Ten'ntauskoy gorodskoy bol'nitsy No.4: (Glavnyy vrach - S.F. Slivnyak).

SOY/112-58-2-2337

Translation from: Referativnyy zhurnal, Elektrotehnika, 1958, Nr 2, p 90 (USSR)

AUTHOR: Kuznetsov, V. G.

TITLE: The Electrical Equipment of Diesel Locomotives
(Elektrooborudovaniye teplovozov)

PERIODICAL: V sb.: Raboty M-va elektrotekhn. prom-sti SSSR po mekhaniz. i
avtomatiz. nar kh-va. 2. M., 1956, pp 16-24

ABSTRACT: A simplified diagram of the TE 3 Diesel electric locomotive is presented. To obtain a hyperbolic external characteristic of the traction generator, which would ensure constant power, an exciter with saturated and non-saturated poles is used. A tachometer-generator automatic power-control system is used to improve the utilization of the installed Diesel capacity when the temperature of the generator field winding is changing and when the auxiliary load varies. A current-limiting device of the traction generator secures the constant acceleration of the locomotive. A 1, 350-k^W 850-rpm MPT 99/77 traction generator is installed on the TE 3 Diesel locomotive. Type EDT 200A traction motors have

Card 1/2

SOV/112-58-2-2337

. The Electrical Equipment of Diesel Locomotives

supporting-weight suspension; each motor has a continuous capacity of 205 kw at 500 rpm. An exciter and an auxiliary generator of the Diesel locomotive have the shaft and housing common with the armatures. The exciter has a capacity of 10 kw; the auxiliary generator 8 kw. Auxiliary generator voltage is kept constant (at 75 v) by a type TRN 1 electrodynamic voltage regulator. A brief description of the electrical equipment of the TE 1 and TE 2 locomotives is also presented.

S.M.D.

Card 2/2

USSR/Microbiology - Medical and Veterinary.

F-4

Abs Jour : Ref Zhur - Biologiya, No 7, 1957, 26402

Author : Kuznetsov, V.G.

Inst :

Title : An Efficient Method of Dysentery Phage Diagnosis
through Mass Tests.

Orig Pub : Zdravookhr. Tadzhikistana, 1956, No 3, 14-17

Abst : It is proposed that a polyvalent phage be used for diagnostic purposes, in addition to the usual testing techniques. A suspected colony is implanted on Ressel medium (only traces of water of condensation are permissible in the test-tube). Scratch implantation must cover the entire width of the beveled surface. A loop (2 mm in diameter) is then used to place in the center, a drop of polyvalent phage, which is then smeared upward in the form of a stripe. A "sterile track" arises in 7 - 10 - 20 hours on the beveled surface in positive cases.

Card 1/1

KUZNETSOV, V.G.

Simultaneous infestation with *Hymenolepis nana*, *Ascaris* and
Diphyllobothrium latum. Med.paraz.i paraz.bol. 33 no.4:488-490
Jl-Ag '64. (MIRA 18:3)

ACCESSION NR: AT5013227

UR/2556/65/000/036/0030/0037

AUTHOR: Kuznetsov, V. G. (Moscow)

TITLE: Some analogies in the disposition of lunar craters and terrestrial volcanoes

SOURCE: Vsesoyuznoye astronomo-geodezicheskoye obshchestvo. Byulleten', no. 36, 1965, 30-37

TOPIC TAGS: lunar topography, lunar crater, lunar crater chain, lunar crater arc, endogenic crater

ABSTRACT: The disposition of curved mountain ranges on the surface of the moon, as described by M. M. Shemyakin (Byull. VAGO, 1962, no. 30(37) and Priroda, 1962, no. 2) has been made the subject of a study comparing these ranges and their craters with 16 island arcs on earth, especially those in and on the periphery of the Pacific Ocean (Kuriles, Japanese Islands, Java, etc.). Topographic and geomorphological comparisons included the curvature and lengths of the arcs, the disposition and spacing of craters along the arcs, as well as crater areas, elevations, and symmetry. The similarity between the disposition and topography of the terrestrial and lunar arcs is clear enough to postulate an endogenic origin for the lunar craters, and more detailed studies are recommended. Orig. art. has: 7 figures and 1 table.
[ER]

Card 1/1

- 8 (4/16) -

ATD PRESS, Vol. 4, No. 16, 23 Jul 65,

KUZNETSOV, V.G.; PABANAYEV, I.V.; SHI IRT, M.Ya.

Interaction of germanium dioxide with the oxides of aluminum,
iron, silicon, calcium, and magnesium on heating. Zhur. neorg.
khim. 9 no.8:1934-1938 Ag '64.

(KIRA 17:11)

KUZNETSOV, V.G.

Special facilities and methods for research on enterobiasis in
laboratory practice. Lab. delo 10 no.4:229-233 '64. (MIRA 17:5)

KUZNETSOV, V.G.

Method for a mass check of the population for enterobiosis.
Zdrav. Tadzh. 3 no.1:22-26 Ja-F '56. (MIRA 12:7)

1. Iz kafedry biologii (zav. - dotsent A. I. Shchurinkova)
Stalinabadskogo Gosudarstvennogo meditsinskogo instituta im.
Abuali-ibn-Sino (dir. - chlen-korrespondent AN Tadzhikskoy SSR
Ya. A. Rakhimov) i san. epid. laboratorii SEL (nach. - B.G.
Konopkin).
(OXYURIASIS)

L 10407-66 EWT(m)/EWP(w)/EWP(j)/T/EWP(t)/EWP(b)
ACC NR: AMS022503 Monograph

JD/WB/DJ/WE/RM

UR/

Kolotukhin, Ivan Nikiforovich; Kuznetsov, Vasilii Georgiyevich; Kazarnovskiy, Semen Naumovich; Tsaregradskiy, Vladimir Alekseyevich

Lubricating and protective materials (Smazochnyye i zashchitnyye materialy) 3d ed., rev. and enl. Moscow, Izd-vo "Transport," 1965. 171 p. illus., biblio., 8000 copies printed.

TOPIC TAGS: lubricant, lubricant component, lubricant property, lubricating oil, grease, lubrication, paint, lacquer, detergent, railway rolling stock, protective coating, corrosion protection

PURPOSE AND COVERAGE: This monograph presents the basic properties, test and preparative methods, and also applications for lubricant and protective paints and lacquers required in the railroad industry. Compared with the second edition, this edition provides additional information on synthetic oils, greases, new synthetic polymeric paints and lacquers, and also detergents and polishing compositions. The monograph was approved by the State Administration for Educational Institutions of the Ministry of Transport as a textbook for rail transport technical schools and can be used by a wide range of workers who are connected with painting and lubrication of rolling stock.

UDC: 625.23/.24002.4:[621.892+66]

Card 1/3

L 10407-66

ACC NR: AMS022503

TABLE OF CONTENTS [abridged]:

Introduction -- 3

Ch. I. Friction. Basic properties of lubricants -- 7

Ch. II. Products for preparing lubricants -- 18

Ch. III. Lubricants used in rail transport -- 37

Ch. IV. Testing of lubricants -- 61

Ch. V. Protective materials, general -- 80

Ch. VI. Raw materials and intermediates for paints and lacquers -- 98

Ch. VII. Paints, lacquers and coatings -- 123

Ch. VIII. Testing paints and lacquers -- 153

Ch. IX. Simple methods for protecting surfaces from corrosion -- 161

Card 2/3

L 10407-66

ACC NR: AM5022503

SUB CODE: *FP, MT*/SUBM DATE: 25Mar65/ ORIG REF: 033

0

EC

Card 3/3

L 11111-66 EFT(m)/EPF(c)/ETC/EPF(n)-2/ENG(m)/ENP(j)/ENA(h)/ENA(l) RM
 ACCESSION NR: AT5023157

UR/2892/65/000/004/0102/0116

AUTHOR: Afanas'yev, V. P.; Biskupchuk, A. M.; Dudkin, V. Ye.; Kovalev, Ye. Ye.;
 Kuznetsov, V. G.; Litvinova, E. G.; Smirennyy, L. N.

TITLE: Experimental data on the shielding properties of materials with regard to
 high energy protons

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Voprosy dozimetrii i zashchity
 ot izlucheniya, no. 4, 1965, 102-116

TOPIC TAGS: radiation shielding, proton beam, polyethylene, lead, aluminum, radia-
 tion dosimetry

ABSTRACT: Experiments on shielding against high-energy protons were conducted on
 the OIYaI synchrocyclotron in Dubno. The total absorbed tissue dose $Q(\delta)$ was mea-
 sured in a thin layer of a detector placed parallel to the shielding plane. The
 dose attenuation and accumulation factor was determined from measurements of $Q(\delta)$
 beyond a shielding screen of thickness δ :

$$f(\delta, E_0) = \frac{Q(\delta)}{Q(0)}$$

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L 11111-66

ACCESSION NR: AT5023157

In all cases, the values of $Q(\delta)$ were normalized in conformity with the monitor readings. The experimental set-up is shown in fig. 1 of the Enclosure. The proton beam from absorber 1 passes through collimator 2 and is deflected by magnet 3 to collimator 4, thus producing a highly pure monochromatic beam of energy. The beam then passes through collimator 5 and ionization chamber M , and impinges directly (normal to the surface) on a layer of shielding material immediately adjacent to detector D . The detector was a flat ten-channel ionization chamber filled with a gas mixture (35% He + 65% Ar) which is capable of measuring the dose in tissue rads for energies of 1-660 Mev. The dimensions of the chamber were 500 x 300 mm. The characteristics of the materials used in the experiments are shown in table 1 of the Enclosure. Curves are given for the dose accumulation and attenuation factors for a wide beam of protons as a function of shield thickness for various materials at various beam energies. The curves show good agreement with theoretical calculations. Curves are also given for the mean tissue dose in a flat phantom as a function of the incident energy of protons in the absence of a shield. The curves agree quite well with theoretical calculations. The mean tissue dose \bar{D}_t for a flat phantom with $\delta_{ph} = 30 \text{ g/cm}^2$ is found behind a polyethylene shield at proton incident energies of 126, 260, 415 and 660 Mev. The maximum mean tissue dose for a thickness of 20 g/cm^2 is at a proton energy of 260 Mev, while at greater

Card 2/5

L 1444-66

ACCESSION NR: AT5023157

thicknesses, the maximum comes at 415 Mev. The mean tissue dose for 415-Mev protons remains practically unchanged up to a thickness of 50-60 g/cm² of polyethylene. The 660-Mev proton dose is reduced beyond this thickness by a factor of only 2, while the dose is practically zero at a thickness of 15 g/cm² for 126 Mev, and the same is true at a thickness of 40 g/cm² for 260-Mev protons. The attenuation curves for the various materials are practically identical. Thus an equivalent thickness of any of the materials studied may be substituted at proton energies of 126 and 260 Mev for a polyethylene shield. On this basis, curves are given for mean tissue dose as a function of shielding thickness for various materials at energies of 126 and 260 Mev. It is found that for a proton energy of 260 Mev, consideration must be given to beam attenuation through inelastic interaction in the shielding materials and in biological tissue. The method used in this investigation has not been verified for proton energies greater than 260 Mev and less than 126 Mev. Orig. art. has: 12 figures, 1 table. [14]

ASSOCIATION: none

SUBMITTED: 00

ENCL: 02

SUB CODE: NP

NO REF SOV: 006

OTHER: 007

ATD PRESS: 4/00

Card 3/5

SKAVINSKIY, Yu.V.; ZAKHAROV, N.I.; BYCHKOVA, A.I.; KUZNETSOV, V.G.

Toxoplasmosis in the Far North. Toxoplasmosis in Taymyr
National Area of Krasnoyarsk Territory. Trudy TSU 80:30-32
'65. (MIRA 18:11)

149

The extraction of bitumen from Ukrainian brown coal.
V. J. Kuznetsov and I. P. Ruminchik *Mos. Inst. Chem.*
(1936).—The advantages of this app. over a steam-air
blast are pointed out. H. M. Leicester
Transl.

ASS-51A METALLURGICAL LITERATURE CLASSIFICATION

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21

ROLLING montan was by chromic acid. V. I. Kusnetsov and I. R. Kominakii. *Khim. Tverdogo Topliva* 7, 708-802 (1936).—Montan was, freed of tar, was treated 3 times with 42% H_2SO_4 and CrO_3 at 105-107°, yielding a product with an Ubbelohde m. p. of 85.6°. A flow sheet of the refining of montan was is presented. Eight references. A. A. Padgugay

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDER										3RD AND 4TH ORDER									
PROCESSES AND PROPERTIES INDEX																			
<p>ca</p>										<p>21</p>									
<p>Experiments on the gasification of peat under pressure with steam-oxygen blowing. V. I. Kuznetsov and K. O. Bushman. <i>Mem. Inst. Chem. Tech., Acad. Sci. Ukrain. S. S. R. No. 8, 3-18</i> (in Russian 10-21, in English 21-4) (1938).—Expts. were conducted with Buchans'k peats which are characteristic of the Ukrainian peat deposits. Composn. of air-dry peat was: C 53.98, H 6.00, N 3.03, O 28.84, S 0.29 and ash 11.06%. Moisture in peat varied from 12.5 to 22.2%. Gasification was conducted with 10-16 kg. peat charges of 3-20 mm. The steam:O ratios were 80:20, 75:25, 70:30, 65:35 and 60:40. Av. pressure in the gasification zone varied from 12 to 20.5 atm. and temp. from 360° to 700°. The steam in the mist was 70-140% and the O was 130% by wt. of the dry peat. The gas obtained had a value of 4000-4500 cal./cu. m. The yield of tar was only 0.5-1% by wt. of the peat. Future expts. are to be conducted on a continuous process to det. optimum operating conditions by using enriched air instead of O. B. Z. Kanich</p>																			
<p>ASS. SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																			
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1st and 2nd Letters		PROCESSING AND PROPERTY INDEX		1st and 2nd Letters	
		<p>21</p> <p>Wax removal from raw lignite wax. V. A. Kuznetsov and N. H. Trofimov'skii. <i>Memo. Inst. Chem. Tech. Acad. Sci. USSR</i>, 3, 3, R. No. 10, 3-5 (in Russian, 35-6, in English, 35-7) (1958). Lignite wax samples which were extr. with benzene from Alexandrian lignite were detarred with EtOAc and with benzene-acetone solns. in various proportions, and then the waxes were chilled to -7° to -10° and filtered. Analogous results were obtained with both solvents. By means of countercurrent extrn. the yields of chilled wax were 2.08% for EtOAc and 2.17% for the benzene-acetone soln. (1:3), while the resp. yields of detarred wax were 70.05 and 70.70%. In both cases the detarred waxes were similar in quality. The raw lignite wax contained 24.40% tar, 1.03% ash and 5.41% of benzene-insol. material. B. Z. Kamich.</p>			
ASO-ELA DETAILING LITERATURE CLASSIFICATION					
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1ST AND 2ND CODES																										3RD AND 4TH CODES																																																																																																																																	
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<p>LA</p> <p>Solubility of raw and detarred lignite wax in organic solvents. V. I. Kuznetsov, N. S. Prokofyevskii and L. B. Karp. <i>Ukrain. S. S. R. No. 10, 39-54 (in Russian, 55, in English, 25) (1968).</i>—The soly. of detarred lignite wax in benzene, di-n-butane (1.1), benzene-acetone, EtOAc and di-n-butane at various temps. ranging up to 70° was investigated. The results show that with a rise in temp. the soly. increases in all cases. The soly. of the tar in the cats. diminished with a rise in temp. On the basis of the results obtained, it is proposed that the extrn. of wax from the lignite be carried out at high temps. while the detarring of the raw wax should be conducted at low temps. without heating. H. Z. Kanich</p>																																																																																																																																																											
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Refined lignite was with chromic anhydride. I. V. Kuznetsov and I. R. Romina'ski. *Memo. Inst. Chem. Tech., Acad. Sci. USSR, S. S. R. No. 10, 57-70 (in Russian, 70-2, in English, 72-4) (1959); cf. C. A. 51, 27815.* - Detarred lignite was refined by oxidation with 120% by wt. of CrO_3 in the presence of 42% H_2SO_4 . The oxidation was conducted in 3 stages with the anhydride being added as follows: 1st stage 90%, 2nd stage 20% and 3rd stage 10%. The H_2SO_4 was divided as follows: 1st stage 100%, 2nd stage 500% and 3rd stage 500% (calcd. as cc./g. of wax). In the 1st stage the mixt. of anhydride and H_2SO_4 was maintained at 100-111° for 3 hrs. and 40 min. of which 3 hrs. and 10 min. were required for the addn. of the CrO_3 . From time to time small amts. of water were added to maintain the desired concn. The 2nd stage lasted about 2 hrs. 20 min., and the 3rd, 3 hrs. 25 min. At the end of the 3rd stage, the mass was cooled, the Cr soln. was decanted and the wax was washed, first with 42% H_2SO_4 , and then with boiling water until free of acid. The yield of refined product was 80% by wt. of the detarred wax. II. I. R. Romina'ski. *Ibid.* 75-92 (in Russian, 92-3, in English, 93-4). - The properties and compn. of detarred and bleached waxes were detd. A comparison

CA 7

Electrochemical regeneration of spent chromium solutions and their application to refining of detarred lignite wax. V. I. Kuznetsov and I. R. Rominskii. *Ukr. Inst. Chem. Tech. Acad. Sci. Ukrain. S. S. R.* No. 10, 100-101 in Russian, 1981; in English, 1981 20(1981). Preliminary reports on the electrochem. regeneration of spent Cr solns. obtained in the refining of lignite wax with CrO₃ gave satisfactory results. The solns. were regenerated in Pb vessels using a c. d. of 1.00 amp. w. dm. The temps. of the electrolytic bath were 35 and 40°. The results show that increasing the temp. from 35 to 40° has a beneficial effect upon the oxidation of the Cr sulfate. The regenerated solns. were used to refine detarred lignite wax. Although the expts. gave pos. results, the effect of the bleaching is not complete, because only 104% of the oxidizer (based on CrO₃) was used. The required amt. of CrO₃ is 120% by wt. of the wax.

H. Z. Kamich

KUZNETSOV, V. I.

CA

27

Fatty acids of lignite wax obtained from brown coal of the Alexandrian district, Ukrainian S. S. R. V. I. Kuznetsov, I. B. Mizel'ska, L. B. Rapp and S. A. Samozn-Sicheva'ka. *Mem. Inst. Chem. Tech., Acad. Sci. Ukrain. S. S. R.* No. 10, 183-85 (in Russian, 196, in English, 190-7) (1938).—Detarred and refined lignite wax which had been extd. from Alexandrian brown coal was subjected to the following series of treatments in order to isolate the fatty acids: (1) sapon., (2) conversion of the K salts into Ca salts, (3) sepn. of the unsaponifiable solns. (alcs.), (4) sepn. of the free acids, (5) prepn. of Me esters of these acids, (6) fractional distn. of these Me esters, (7) sapon. of the sep. ester fractions, (8) sepn. of the free fatty acids for detg. their compn. B. Z. Kamich

Bc

K-2-2

Fatty acids of montan wax from Alexandria
(Ukraine) Monts. V. I. KHARASOV, I. B. MIKH-
RAJA, L. N. NAPO, and E. A. SIKHIN-SITCHEVSKAJA
(Mosc. Inst. Chem. Tech. Ukraia. Acad. Sci., 1939, No.
10, 183—187).—The wax is hydrolysed (KOH), the
Ca salts of the fatty acids are pptd., and the Me esters
of the mixture of acids are prepared and fractionated.
The mol. wt. of the products suggests the acids
 $C_{36}H_{72}CO_2H$, $C_{34}H_{68}CO_2H$, and $C_{32}H_{64}CO_2H$.

ASH, SLA METALLURGICAL LITERATURE CLASSIFICATION

SEARCH SYMBOLS	ALPHABETIC INDEX	CLASSIFICATION	CROSS REFERENCE
10000 #1	10000 H17 GNV DSI	DELLSTONE	10000 DOWNEY
10000 #2	10000 H17 GNV DSI	DELLSTONE	10000 DOWNEY

KUZNETSOV, V. I.

Kuznetsov, V. I. "Complex utilization of the brown coals of the Ukrainian SSR," Report 1, Ukr. khim. zhurnal, Vol. XV, Issue 1, 1949, p. 3-10, - Bibliog; 14 items

SO: U-5241, 17 December 1953, (Letopis 'Zhurnal 'nykh Statey, No. 24, 1949)

KUZNETSOV, V. I.,

Kuznetsov, V. I., Govorova, R. P. and Shilov, S. V. "Complex utilization of the brown coal of the Ukrainian SSR," Report 2, Ukr. khim. zhurnal, Vol. XV, Issue 1, 1947, p. 11-24

SO: U-5241, 17 December 1953, (Letopis 'Zhurnal 'nykh Statey, No. 26, 1949)

KUZNETSOV, V. I.

Jun 50

USSR/Chemistry - Plastics, Coal Tar products, Fuels

"Complex Utilization of Lignite of Ukrainian SSR.

Part IV. The Phenols from the Crude Tar of the Lignite of the Aleksandriyskiy Deposit," V. I. Kuznetsov, A. G. Blednykh, A. A. Bobrova, Inst of Org Chem, Acad Sci Ukrainian SSR

"Ukrainskiy Khimicheskiy Zhurnal" Vol XVI, No 1, pp 43-56

The phenol content of crude tars from lignite of the lower part of the Baydakovskiy region of the Aleksandriyskiy deposit is established at 10.2%

2127b

The and at 7.21% by wt in the 1st 3 fractions. The total content of the lower phenols in the 1st 3 fractions of the tar is 3.77% by wt or 52.3% by wt of all of the phenols in these 3 fractions. The m-cresol content is 36.5% in the m-cresol fraction of the gasoline and 22.7% in the m-cresol fraction of the ligroine. While investigations of the tar, of the ligroine and kerosene fractions of the ligroine of the following was established: the presence of 1,4,2-xyleneol in ligroine and 1,3,5-1,3,5-xyleneol, 1,4,2-xyleneol, p-ethylphenol in kerosene. The results obtained permit one to assume that the lower phenols of lignite tar can be utilized as valuable materials for a number of industries and especially for the production of plastics.

2127b

KUZNETSOV, V. I.

Chemical Abstr.
Vol. 43 No. 8
Apr. 25, 1954
Fuels and Carbonization Products

(3)

Complex utilization of brown coal of Ukrainian S.S.R.
V. Comparative evaluation of solvents for extraction of mineral wax from brown coal of one site of Ukrainian S.S.R.
V. I. Kuznetsov and A. A. Dobrya. *Ukrain. Khim. Zhur.* 1953, 8:10-11 (in Russian); *Ch. C.A.* 46, 10581a. —A bituminous brown Ukrainian coal was examd. as to extractability of mineral wax with org. solvents. Lowest extrn. of bitumen occurs with Me_2CO and low-boiling petroleum fractions; greatest bitumen extrn. occurs with $\text{EtOH}-\text{CH}_2\text{Cl}_2$, CH_2Cl_2 mixt. (1:3). The bitumens so extrd. differ from each other; the Me_2CO extractive form softens at 149-52° with 70% tar content and 55 acid no.; the petroleum extractive form has softening temp. 80°, with but 10% tars and 21 acid no. The best extrn. of waxes is done with $\text{EtOH}-\text{CH}_2\text{Cl}_2$, CH_2Cl_2 mixt. Substances extrd. with Me_2CO and its mixtures are rich in O (11-12%) and S (2%); those extrd. by CH_2Cl_2 , CH_2Cl_2 or petroleum fractions are high in C (80%) and H (11-12%) and low in S (1.5%). The solvents can be recovered from the extrd. coal by means of superheated steam; 1:1 CH_2Cl_2 is the most readily recoverable of the solvents. VI. Isolation of paraffin from the paraffin fraction and study of methods of its purification. V. I. Kuznetsov and T. D. Kirel. *Ibid.* 683-62. —The paraffin fraction of materials extrd. from brown coal by CH_2Cl_2 , CH_2Cl_2 contains some 25% paraffin, approx. 1:1 mixt. of soft and hard forms. By sweating some 22% of the oil content can be removed from the crude paraffin. In purification by adsorbents such as bentonite or silica gel it is possible to obtain white paraffin in 20-45% yield, f.p. up to 54°.

G. H. Koster

Ukrain. Khim. Zhur., vol. 10, 8:10-11, 1953; abstr. in Chem. Abstr., 1954, vol. 48, 14506j. —The paraffin fraction of materials extracted from brown coal by CH_2Cl_2 , CH_2Cl_2 contains some 25% paraffin, approximately 1:1 mixture of soft and hard forms. By sweating some 22% of the oil content can be removed from the crude paraffin. In purification by adsorbents such as bentonite or silica gel it is possible to obtain white paraffin in 20-45% yield, freezing point up to 54°.

Kuznetsov, V. I.

USSR/Chemistry - Low Temp Coking;
Lignite

Sep/Oct 53

"Complex Utilization of Brown Coals of the Ukrainian SSR. 7. Investigation of the Composition of Tar Fractions Obtained by Low Temperature Coking of Brown Coal," N. M. Karavayev, V. I. Kuznetsov, R. P. Govorova, Inst of Heat Power Engng, Acad Sci Uk SSR

Ukrain Khim Zhur, Vol 19, No 5, pp 556-561.

Purification of the ligroin-kerosene and paraffin fractions is best carried out by selective solvent

271T6

extraction. The furfural used as a solvent can be recovered almost completely, and the material extracted applied in the [used] rubber recovery industry.

for 24-10-1953, 15.1.

U S S R .

✓ 5199. COMPLEX UTILIZATION OF BROWN COALS OF UKRAINIAN S.S.R.
VIII. REMOVAL OF NEUTRAL OILS FROM PHENOLATES DURING PRODUCTION OF
PRIMARY TAR FROM BROWN COALS. Kuznetsov, V.I. and Blednykh, A.G.
(Ukr. Khim. Zh. (Ukr. Chem. J.), 1953, vol. 19, (6), 683-686; abstr. in
Ref. Zh. Khim. (Ref. J. Chem., Moscow) 1954, (18), 42128). Phenolates were
obtained by treating a wide fraction of primary tar, boiling at 170 to
312°C, with a 10% solution of caustic soda. The following methods of
removing the neutral oils are described: extraction with ether, with
benzene, dilution with water and blowing off with superheated steam. The
last method was the best and removed 90.4% of the neutral oils.

KUZNETSOV, V.I.

USBR/ Chemistry - Chemical technology

Card 1/2 Pub. 116 - 23/25

Authors : Kuznetsov, V. I. ; Govorova, R. P.; Livyy, G. V.; and Landa, I. M.

Title : ~~Use of furfurole extracts of lignite-kerosene fractions of primary~~
lignite tar for reclaiming of rubber

Periodical : Ukr. khim. zhur. 21/1, 127-131, 1955

Abstract : Lignite tar refining wastes and especially furfurole extracts of lignite-kerosene fractions were investigated to determine their applicability as plasticizers for rubber reclamation. It was found that the lignite-kerosene extract is an active swelling agent for synthetic rubber. Even though the extract cannot be used in pure form for the reclamation of rubber it is, however, well applicable as a diluent of solid plasticizers which makes it possible to obtain reclaimed rubber with high physico-mechanical

Institution : Acad. of Sc., Ukr-SSR, Heat Energy Institute, The Rubber Reclaiming Plant, Kiev.

Submitted : February 20, 1955

Periodical : Ukr. khim. zhur. 21/1, 127-131, 1955

Card 2/2 : Pub. 116 - 23/25

Abstract : properties. The best results were obtained during the application of solid plasticizers of the colophony, coumarone resin types. Four USSR references (1938-1953). Tables; graphs.

USSR/Chemistry - Chemical technology

Card 1/1 Pub. 116 - 27/30

Authors : Kuznetsov, V. I., and Bobrova, A. A.

Title : Complex utilization of brown coal in Ukr. SSR. Part 9. Extraction of
 brown coal for the purpose of separating mineral wax

Periodical : Ukr. khim. zhur. 21/3, 416-420, June 1955

Abstract : The extraction of bituminous brown coal was investigated to determine the
 effect of various factors: grain size and moisture of coal, age and origin
 of the coal, preliminary thermal and chemical processing, pressure, type
 of machines, etc., on the yield and quality of the mineral wax separated
 from the coal. Analysis of results obtained is presented. Eleven refer-
 ences: 10 USSR and 1 German (1929-1953). Tables.

Institution : Acad. of Sc., Ukr. SSR., Heat Power Engin. Inst.

Submitted : February 22, 1955

KUZNETSOV, V. I.

USSR /Chemical Technology. Chemical Products
and Their Application

I-15

Treatment of solid mineral fuels

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31838

Author : Kuznetsov V. I., Fadeicheva A. N.

Title : Composite Utilization of Brown Coal of Ukrainian
SSR. X. Characteristics of Primary Tar Produced
in Shaft Furnaces from Bituminous Brown Coal of
Ukrainian SSR

Orig Pub: Ukr. khim. zh., 1955, 21, No 4, 522-526

Abstract: Low-temperature carbonization of bituminous
brown coal from the Aleksandriyskiy deposit
(Ukraine) was carried out under laboratory con-

Card 1/3

USSR /Chemical Technology. Chemical Products
and Their Application

I-15

Treatment of solid mineral fuels

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31838

ditions, in a revolving retort, and in industrial shaft furnaces. Yield of tar, on the basis of dry coal, amounts to 13.7%; it contains 9.4% phenols (6.6% liquid), 12.6% paraffins and 16.3% silica-gel tars. The neutral, hydrocarbon portion, which constitutes 51.8% of the tar, contains 5.9% of 95-200° gasoline fraction, 6.3% 200-230° fraction, 19.5% 230-290° fraction, 48.3% 290-353° fraction and 17.7% pitch. About 44% of the phenols are low boiling. On the basis of the tar, the phenol fraction amounts to 0.59%, the cresol fraction -- 1.83% and the

Card 2/3

USSR /Chemical Technology. Chemical Products
and Their Application

I-15

Treatment of solid mineral fuels

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31838

xyleneol fraction -- 1.68%. Part IX see RZhKhim,
1956, 48055.

Card 3/3

"APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000928210004-5

APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000928210004-5"

KUZNETSOV, V.I.

USSR/ Chemistry - Solid fuels

Card 1/1 Pub. 116 - 25/29

Authors : Kuznetsov, V. I., and Bobrova, A. A.

Title : Complex utilization of brown coal in the Ukr. SSR. Part 12. Semicoking of extracted brown coal

Periodical : Ukr. khim. zhur. 21/6, 800-803, Dec 1955

Abstract : Experiments showed that semicoking of extracted bituminous brown coal lead to a reduction in the primary tar yield and a small reduction in the yield of pyrogenetic water as compared with the yield of these products from basic lignite. The reasons for the change in properties and composition of primary coal tars originating as result of separating the bitumena from the coal, are explained. Tars of extracted coal were found to contain considerable amounts of phenols and other liquid hydrocarbons. Three USSR references (1919-1952). Table.

Institution : Acad. of Sc., Ukr. SSR, Inst. of Heat Power Engineering

Submitted : March 18, 1955

KUZNETSOV V.I.

USSR/ Chemistry - Solid fuels

Card 1/1 Pub. 116 - 26/29

Authors : Kuznetsov, V. I.; Govorova, R. P.; Fadeycheva, A. G.; Gigel', T. B.; and Chernykh, M. K.

Title : Complex utilization of brown coal in the Ukr. SSR. Part 13, Tars from semicoking of smut coal with the solid heat carrier - semicoke

Periodical : Ukr. khim. zhur. 21/6, 804-809, Dec 1955

Abstract : Tars obtained by semicoking of brown coal with the solid heat-carrier (semicoke) were found to offer a higher yield of benzene and lower yield of paraffin fractions as compared with tar obtained during the semicoking of the very same coal with a gaseous heat carrier. The primary decomposition products during the semicoking of brown coal with a solid heat carrier - semicoke - submit to cracking to a greater extent than during semicoking with a gaseous heat carrier. The increase in fractions in tars of unsaturated compounds was found to be due to cracking. The phenols obtained from such fractions offer a somewhat lower yield of phenol-cresol fractions; and the paraffin yield is much lower. Tables; graph.

Institution : Acad. of Sc., Ukr. SSR, Inst. of Heat Power Engineering, Lab. for Chem. Proc.

Submitted : June 17, 1955

TOLUBINSKIY, Vsevolod Ivanovich; SHCHEGOLEV, German Mikhaylovich; RABINOVICH, Mikhail Iosifovich; KUZNETSOV, Vladimir Ivanovich; TOLUBINSKIY, V.I., redaktor; TITKOV, B.S., redaktor izdatel'stva; SKLYAROVA, V.Ye., khudozhestvennyy i tekhnicheskiy redaktor

[Use of local fuels for industrial power engineering] Energotekhnologicheskoe ispol'zovanie mestnykh topliv. Pod obshchei red. V.I. Tolubinskogo. Kiev, Izd-vo Akad. nauk USSR, 1956. 128 p. (MLBA 10:4)
(Fuel) (Power engineering)

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